

# Integrated Intelligent Computing Models for Cognitive-Based Neurological Disease Interpretation in Children: A Survey

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## Abstract

**INTRODUCTION:** This piece of work provides the description of integrated intelligent computing models for the interpretation of cognitive-based neurological diseases in children. These diseases can have a significant impact on children's cognitive and developmental functioning.

**OBJECTIVES:** The research work review the current diagnosis and treatment methods for cognitive based neurological diseases and discusses the potential of machine learning, deep learning, Natural language processing, speech recognition, brain imaging, and signal processing techniques in interpreting the diseases.

**METHODS:** A survey of recent research on integrated intelligent computing models for cognitive-based neurological disease interpretation in children is presented, highlighting the benefits and limitations of these models.

**RESULTS:** The significant of this work provide important implications for healthcare practice and policy, with strengthen diagnosis and treatment of cognitive-based neurological diseases in children.

**CONCLUSION:** This research paper concludes with a discussion of the ethical and legal considerations surrounding the use of intelligent computing models in healthcare, as well as future research directions in this area.

**Keywords:** Cognitive-based Neurological Diseases, Deep Learning, Natural Language Processing, Speech Recognition, Brain Imaging & Intelligent Computing Model

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## 1. Introduction

Cognitive-based neurological diseases can have a profound impact on children's cognitive and developmental functioning, often resulting in long-term cognitive impairments and disabilities [1]. Early detection and treatment of these diseases are critical for improving outcomes, and intelligent computing models have shown promise in assisting with their interpretation. This survey paper provides an overview of integrated intelligent computing models for the interpretation of cognitive-based neurological diseases in children.

The paper begins with a brief introduction to the problem, providing background and motivation for the study. We highlight the significance of early detection and treatment of

cognitive-based neurological diseases in children and the potential benefits of using intelligent computing models in their interpretation. The paper then presents the problem statement and research questions that guide the study.

The main objectives of the paper are to review the current diagnosis and treatment methods for cognitive-based neurological diseases [2-4], explore the potential of integrated intelligent computing models for their interpretation, and survey recent research in this area. The paper also aims to discuss the applications and challenges of intelligent computing models in healthcare [5-8] and identify future research directions.

Finally, this research paper outlines its organization, with section two providing an overview of cognitive-based neurological diseases in children. Section three discusses integrated intelligent computing models for the



























